SECURECOM

SC-VoLTE M3

Analogue phone line interface with 4G connection
(VoLTE/landline gateway)

Installation manual v1.0
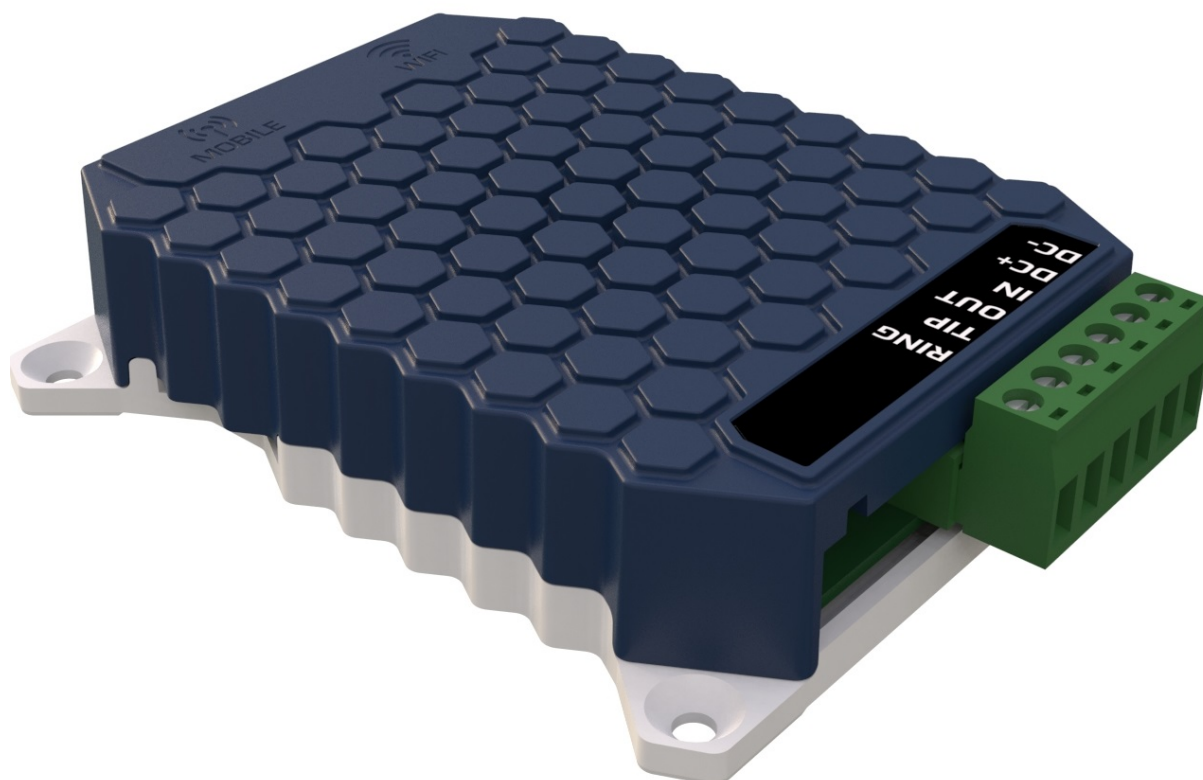
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1   General information

The **SC-VoLTE M3** device is a 4G voice gateway with analogue phone line. The gateway allows that to connect an analogue terminal equipment or a PBX directly to the LTE(4G) network and make calls over the public mobile network.

The device can connect the alarm system to the user via a mobile call or can be used as a simple phone line in other applications in places where a public phone line is not available (lifts, SOS or INFO call points, holiday homes, etc.)

Exclusion of liability

The manufacturer is not liable with respect to the buyer of this product or to third parties for damage, loss, costs or work incurred as a result of accidents, misuse of the product, incorrect installation or illegal changes, repairs or additions. Claims under warranty are likewise excluded in such cases. The technical data is the latest available. The manufacturer accepts no liability arising from printing errors, mistakes or changes.
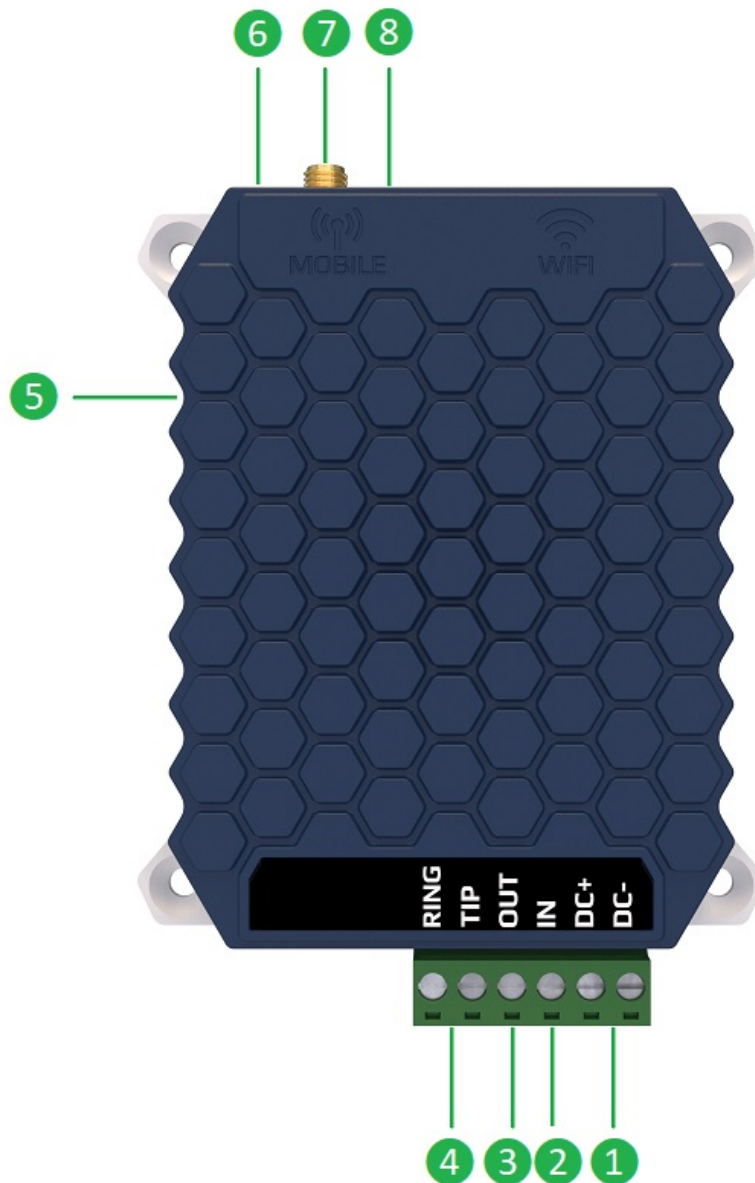
1.1   Key features

- 4G network connection (with 2G fallback)
- Telephone line simulation
- Outgoing and incoming call management
- Outstanding voice quality
- Remote management option via puloware.com website
- Contact input alert to the specified phone number
- Output control from voice call
- Setup and diagnostics via USB connection

1.2   Technical data

- Supply voltage: 10 -30 VDC (under voltage lockout below 9.5V)
- Rated current: 100 mA (@12VDC)
- Maximum current: 300 mA (@12VDC)
- Line parameters: Line voltage: 48 VDC
                               Loop current: 25mA
                               Dial tone: 440 Hz
                               Ringing voltage: 130Vp-p
- Network communication: LTE (4G) bands: B1,B3,B5,B7,B8,B20
                               GSM (2G) bands: B3, B8
- SIM card: mini SIM (2FF)   **Make sure your SIM is VoLTE call capable!**
- Operating temperature: -10 °C to +70 °C
- Dimensions: 75x120x25mm
- Environmental protection: IP40 (outdoor installation in protective box required)

2 Overview

1   **Power supply terminals** | Power requirements: DC 10-30V / minimum: 500mA

2   **Alarm contact inputs** | Triggered to **–DC** negative supply (with dry contact)

3   **Relay contact output** | Switches to **–DC** negative supply when controlled

4   **TIP/RING telephone line out** | emulated PSTN line for phone line devices

5   **SIM card holder** | Type: 2FF/mini SIM

6   **Status indicator LEDs**

7   **4G antenna connector** | SMA female type

8   **USB connector for configuration** | USB mini B type

3   Operation

It completely replaces the analogue telephone line for voice transmission, i.e. it acts as a direct PSTN-VoLTE gateway. This means that the connected device can make an outgoing call to a specified phone number and receive an incoming call from any calling party's phone number. For outgoing calls, the shortest number dialled must be at least 3 digits long!

By controlling the contact input the communicator immediately sends the SMS messages assigned to the input to the given phone number and it makes an alarm call.

During a call, press button 1 on the phone's dialler to switch on the output relay and button 2 to switch it off.

Warning, devices requiring CSD connection (Circuit Switched Data) and frequency shift modulation, e.g. FSK modems, cannot be used!

4   Status signals

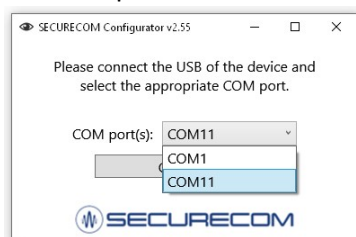With the status indicator LEDs ⑥ , the device can display these basic statuses.

Signals	Device status
Flashing RED	Connecting to network / SIM or network failure after 2 minute
Flashing GREEN	Idle state
Continuous GREEN	Incoming or outgoing call in progress
Flashing RED & GREEN	Low signal strength, below 30%

If the flashing RED does not change to GREEN, the detailed cause of the error can be viewed in the MODULE STATUS and LATEST EVENTS windows of the PC configurator.

5   Settings

If it is simply used as a PSTN/4G gateway to replace a telephone line - and the SIM card is not PIN protected, no further configuration of the device is required!

To set up the device install the SECURECOM Configurator software. The installation file is available on https://www.securecom.eu/en/application-notes. Run the installer (securecomconfiguratorsetup), it will make the software available from the start menu. After running the program, connect the USB port of the device to the PC, and select the appropriate serial port, then push the "Connect" button. For example:

Once connected, device settings can be found on the following interface.

Attention: To validate the changes, settings must be downloaded into device!

 The modified settings can be downloaded to the device memory using the icon. The latest events panel will show the changes. If any of the parameter values of the unit are changed in the configurator, the background colour of the download icon will change to red, indicating that the displayed values are not yet valid in the unit and need to be loaded into the unit's memory.

5.1   Administrative window

The administration window of SecurecomConfigurator contains the following basic information about the device.

➔ Product type ID
➔ Microcontroller program version
➔ Administrative tools
➔ Language selection

The function of the administration icons is as follows:

 Open and load saved settings to the screen

 Save settings to file

 Save the configurator screen settings into the device memory

5.2   MODULE STATUS

This window shows the operational status of the communicator.

MODULE STATUS	
Mobile network:	E-UTRAN (4G) vodafone HU
Network signal (%):	77%
Input:	1
Supply voltage:	12.75V
Dial capture:	ONHOOK

→ Type of connection and operator name
→ Mobile network signal strength (0-100%)
→ Control status of inputs
→ Supply voltage value
→ Telephone equipment dialer status

5.3   GENERAL SETTINGS

In this window you can change the parameters related to the operation of the communicator.

GENERAL SETTINGS	
Ring time (sec):	20
Call time (sec):	20
Alarm time (sec):	300
SMS limit/day:	20
Call limit/day:	20
Audio profile:	High volume

Ring time: outgoing call ringing time limit in seconds
Call time: outgoing call maximum duration in seconds
Alarm time: contact input event notification expiry time in seconds
SMS limit: daily limit for sending SMS
Call limit: daily limit for alarm calls
Audio profile: change the Rx and Tx transmission level of the telephone line
               Low volume= 0dBm | Normal volume= 3dBm | High volume= 6dBm

5.4   INPUT EVENT REPORTING TO PHONE NUMBER

The device has 1 contact inputs, with NO or NC setting. For alarm notifications, the contacts must be connected to the **-DC** negative supply voltage. Sensitivity means that the event (short circuit or interruption) that triggers the alarm must persist for at least the time set there. In case of a contact event, the alarm device shall notify the selected telephone numbers by means of an alarm call and/or SMS message. The SMS message can be specified individually.

INPUT EVENT REPORTING TO PHONE NUMBER													
Alarm name	Sensitivity	Type	Phone call				SMS message		SMS send			
			1	2	3	4			1	2	3	4
IN alarm	0,3 sec	NO	✓	☐	☐	☐	IN alarm		✓	☐	☐	☐
IN restore			☐	☐	☐	☐	IN alarm restore		☐	☐	☐	☐

5.5   PHONE NUMBER SETTINGS

It can be add maximum 4 phone numbers to send an input alert. If Ack. (acknowledgement) is checked, the alarm call will continue until any character is pressed on the called party's phone with the dialler. The SMS fw. means the forwarding of SMS messages that received on the SIM card.

	PHONE NUMBER SETTINGS		
	Phone number	Ack.	SMS fw.
1	+361234567890	☐	☑
2		☐	☐
3		☐	☐
4		☐	☐

5.6   MOBILE NETWORK SETTINGS

If a PIN is required for the SIM card, it must be entered in the PIN code field. If the device requires remote access and management, then APN details must be entered for the data connection (usually no username and password, only APN name)

MOBILE NETWORK SETTINGS	
PIN code:	
Internet APN:	
User:	
Password:	

5.7   LATEST EVENTS

In this window you can monitor the communication details and error messages from the device.

```
LATEST EVENTS
14:54:30: Phone on
14:54:53: Phone type: A7682E
14:54:53: ICCID: 89367031562129404587
14:54:53: Connected mobile network: 'vodafone HU' (21670)
14:54:53: Phone access technology: E-UTRAN (4G)
14:54:53: Network time synchronization: 2023-12-14,14:54:51
14:54:53: Detected APN: 'internet.vodafone.net.MNC070.MCC216.GPRS'
14:54:53: Phone ready!
```

6   Device package content

• SC-VoLTE M3 communicator
• 4G antenna
• USB cable
• Warranty